



## **SAW Components**

### **SAW RF low loss filter**

Satellite CSS

<b>Series/type:</b>	<b>B1661</b>
<b>Ordering code:</b>	<b>B39202-B1661-B510</b>
<b>Date:</b>	<b>December 18, 2009</b>
<b>Version:</b>	<b>2.0</b>



Data sheet



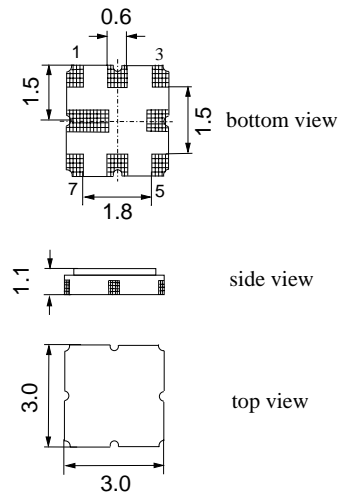
Application

- Low loss RF filter for satellite CSS
- Usable passband 40.0 MHz
- Balanced to balanced operation



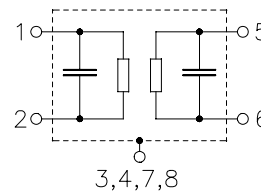
Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Maximum height of 1.225 mm
- Package code QCC8F
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input
- 2 Input
- 5 Output
- 6 Output
- 3,7 To be grounded
- 4,8 Case ground





<b>SAW Components</b>	<b>B1661</b>
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Data sheet



**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 150\ \Omega$  (balanced) and matching network  
 Terminating load impedance:  $Z_L = 150\ \Omega$  (balanced) and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	1994.60	—	MHz
<b>Maximum insertion attenuation</b> 1974.60 ... 2014.60 MHz	$\alpha_{\max}$	—	4.0	5.5	dB
<b>Pass bandwidth</b> $\alpha_{\text{rel}} \leq 1.5\text{ dB}$	$B_{1.5\text{ dB}}$	—	60.0	—	MHz
<b>Amplitude ripple (p-p)</b> 1974.60 ... 2014.60 MHz	$\Delta\alpha$	—	1.0	2.0	dB
<b>Input return loss</b>		8.0	12.0	—	dB
<b>Output return loss</b>		8.0	13.0	—	dB
<b>Group delay ripple (p-p)</b> 1974.60 ... 2014.60 MHz	$\Delta\tau$	—	15.0	40.0	ns
<b>Differential to common mode ratio</b> ( $ S_{dd21}/S_{cd21} $ ) 1974.60 ... 2014.60 MHz		20.0	25.0	—	dB
<b>Deviation from linear phase (rms)</b> in any 30 MHz band 1974.60 ... 2014.60 MHz		—	4.0	7.0	°
<b>Relative attenuation (relative to <math>\alpha_{\max}</math>)</b>	$\alpha$				
50.00 ... 1912.50 MHz		36.0	40.0	—	dB
2076.70 ... 2150.00 MHz		32.0	36.0	—	dB
2150.00 ... 2500.00 MHz		39.0	43.0	—	dB
2500.00 ... 4250.00 MHz		31.0	35.0	—	dB
<b>Attenuation</b> 4250.00 ... 6000.00 MHz	$\alpha$	30.0	—	—	dB



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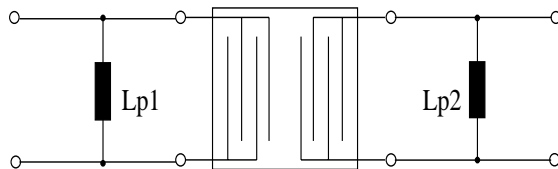
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1994.60 MHz

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Matching network (element values depend on PCB layout)



$L_{p1} = 18 \text{ nH}$

$L_{p2} = 18 \text{ nH}$

### Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 1974.60... 2014.60 MHz	P <sub>IN</sub>	0	dBm	source impedance 150 Ω

1) acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

### Transfer function



Please read *cautions and warnings and important notes* at the end of this document.



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Transfer function (passband)





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1994.60 MHz

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## References

Type	B1661
Ordering code	B39202-B1661-B510
Marking and package	C61157-A7-A72
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B1661_NB.s4p see file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

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Published by EPCOS AG  
Surface Acoustic Wave Components Division  
P.O. Box 80 17 09, 81617 Munich, GERMANY

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